

Figure 1 (SEQ ID NO:724)

85P1B3 SSH sequence and GenBank homology to OIP5

GATCAGAGGACACATGGGACTCTGCATCTTAATTCCTAAATTTACAGTCAAAGACATTTTCAG
 AGATAAGTATTATGAATTCAATAAGAATCTAAAGTAAGTTCTTAAGGCAAATAGCTATAAAA
 GAGAAGAATCCTTAGTCTCTCATCTTCTAAAAACAGCTTCACAAATAATTTGGAAAAATCAGCC
 TAAAGGTAAATAGAACTGCATTTCCCCTCCATTCTTGAAGCCAATCTTTTCAAGAAATGAC
 TAAGCAGCACCTGTTGTTGAAGACAGCAATAAAGCCTGAACCTGACACTCAAGCTTTGGTACA
 GGATC

gb|AF025441.1|AF025441 Homo sapiens Opa-interacting protein... 632 e-179
 gb|AF158642.1|AF158642 Homo sapiens metalloproteinase-disin... 42 0.12
 gb|AC005075.2|AC005075 Homo sapiens clone RG219E16, complet... 42 0.12
 emb|AL096773.6|HS1000E10 Human DNA sequence from clone 1000... 40 0.48

>gb|AF025441.1|AF025441 Homo sapiens Opa-interacting protein OIP5 mRNA, partial cds
 Length = 1197

Score = 632 bits (319), Expect = e-179
 Identities = 319/319 (100%)
 Strand = Plus / Minus

Query: 1 gatcagaggacacatgggactctgcactttaattcctaaatttacagtcaaagacatttt 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Sbjct: 1013 gatcagaggacacatgggactctgcactttaattcctaaatttacagtcaaagacatttt 954

Query: 61 cagagataagtattatgaattcaataagaatctaaagtaagttcttaaggcaaatagcta 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Sbjct: 953 cagagataagtattatgaattcaataagaatctaaagtaagttcttaaggcaaatagcta 894

Query: 121 taaaagagaagaatccttagtctctcatcttctaaaaacagcttcacaaataatttgaa 180
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 Sbjct: 893 taaaagagaagaatccttagtctctcatcttctaaaaacagcttcacaaataatttgaa 834

Query: 181 aatcagcctaaaggtaaataagaaactgcatttcccctccattcttgaagccaatctttt 240
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 Sbjct: 833 aatcagcctaaaggtaaataagaaactgcatttcccctccattcttgaagccaatctttt 774

Query: 241 caagaaatgactaagcagcacctgttgttgaagacagcaataaagcctgaacctgacact 300
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 Sbjct: 773 caagaaatgactaagcagcacctgttgttgaagacagcaataaagcctgaacctgacact 714

Query: 301 caagcttttggtacaggatc 319 (SEQ ID NO:725)
 ||||||||||||||||
 Sbjct: 713 caagcttttggtacaggatc 695 (SEQ ID NO:726)

Figure 2

cDNA Sequence and ORF of 85P1B3/OIP5 clone A
(SEQ ID NO:727)

5' ↓ 9 18 27 36 45 54
 GGC TGC GGG AAG ATG GCG GCT CAG CCG CTG CGG CAT CGC TCA CGT TGT GCA ACG

 (SEQ ID NO:728)→ M A A Q P L R H R S R C A T

 63 72 81 90 99 108
 CCG CCC CGG GGG GAC TTT TGT GGT GGC ACT GAG AGG GCG ATT GAC CAA GCT TCT

 P P R G D F C G G T E R A I D Q A S

 117 126 135 144 153 162
 TTT ACG ACC TCC ATG GAG TGG GAT ACG CAG GTG GTG AAG GGG TCC TCG CCG CTC

 F T T S M E W D T Q V V K G S S P L

 171 180 189 198 207 216
 GGC CCC GCA GGG CTG GGG GCT GAG GAG CCA GCC GCC GGC CCG CAG CTG CCG TCT

 G P A G L G A E E P A A G P Q L P S

 225 234 243 252 261 270
 TGG CTG CAG CCT GAG AGG TGC GCT GTG TTC CAG TGC GCA CAG TGT CAC GCA GTG

 W L Q P E R C A V F Q C A Q C H A V

 279 288 297 306 315 324
 CTC GCC GAC TCG GTG CAC CTC GCC TGG GAC CTG TCG CGG TCC CTC GGG GCC GTG

 L A D S V H L A W D L S R S L G A V

 333 342 351 360 369 378
 GTC TTC TCC AGA GTT ACA AAT AAC GTC GTT TTG GAA GCG CCC TTC CTA GTT GGC

 V F S R V T N N V V L E A P F L V G

 387 396 405 414 423 432
 ATT GAA GGT TCA CTC AAA GGC AGT ACT TAC AAC CTT TTA TTC TGT GGT TCT TGT

 I E G S L K G S T Y N L L F C G S C

 441 450 459 468 477 486
 GGG ATT CCC GTT GGT TTC CAT CTG TAT TCT ACC CAT GCT GCC CTG GCT GCC TTG

 G I P V G F H L Y S T H A A L A A L

 495 504 513 522 531 540
 AGA GGT CAC TTC TGC CTT TCC AGT GAC AAA ATG GTG TGC TAT CTC TTA AAA ACA

 R G H F C L S S D K M V C Y L L K T

 549 558 567 576 585 594
 AAA GCC ATA GTA AAT GCA TCA GAG ATG GAT ATT CAA AAT GTT CCT CTA TCA GAA

 K A I V N A S E M D I Q N V P L S E

 603 612 621 630 639 648
 AAG ATT GCA GAG CTG AAA GAG AAG ATA GTG CTA ACG CAC AAT CGC TTA AAA TCA

 K I A E L K E K I V L T H N R L K S

15

15

Figure 3

85P1B3/OIP5 protein sequence. (SEQ ID NO:729)

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1 MAAQPLRHRS RCATPPRGDF CGGTERAIDQ ASFTTSMEDW TOVVKGSSPL GPAGLGAEED
61 AAGPQLPSWL QPERCAVFQC AQCHAVLADS VHAWDLRS LGAVVFSRVT NNVVLEAPFL
121 VGIEGSLKGS TYNLLFCGSC GIPVGFHLYS THAALAALRG HFCLSSDKMV CYLLKTKAIV
181 NASEMDIQNV PLSEKIAELK EKIVLTHNRL KSLMKILSEV TPDQSKPEN*
```

Figure 4**Alignment of 85P1B3 with OIP5.**

>gi|2815610|gb|AAC39561.1| (AF025441) Opa-interacting protein OIP5 [Homo sapiens]
Length = 231

Score = 462 bits (1189), Expect = e-130
Identities = 229/229 (100%), Positives = 229/229 (100%)

```
85P1B3: 1  MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSMEWDTQVVKGSSPLGPAGLGAEEP 60
           MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSMEWDTQVVKGSSPLGPAGLGAEEP
OIP5: 3   MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSMEWDTQVVKGSSPLGPAGLGAEEP 62

85P1B3: 61  AAGPQLPSWLQPERCAVFQCAQCHAVLADSVHLAWDLSRSLGAVVFSRVTTNNVVLEAPFL 120
           AAGPQLPSWLQPERCAVFQCAQCHAVLADSVHLAWDLSRSLGAVVFSRVTTNNVVLEAPFL
OIP5: 63   AAGPQLPSWLQPERCAVFQCAQCHAVLADSVHLAWDLSRSLGAVVFSRVTTNNVVLEAPFL 122

85P1B3:121  VGIEGSLKGSTYNLLFCGSCGIPVGFHLYSTHAALAALRGHFCLSSDKMVCYLLKTKAIV 180
           VGIEGSLKGSTYNLLFCGSCGIPVGFHLYSTHAALAALRGHFCLSSDKMVCYLLKTKAIV
OIP5: 123   VGIEGSLKGSTYNLLFCGSCGIPVGFHLYSTHAALAALRGHFCLSSDKMVCYLLKTKAIV 182

85P1B3:181  NASEMDIQNVPLSEKIAELKEKIVLTHNRLKSLMKILSEVTPDQSKPEN 229 (SEQ ID NO:730)
           NASEMDIQNVPLSEKIAELKEKIVLTHNRLKSLMKILSEVTPDQSKPEN
OIP5: 183   NASEMDIQNVPLSEKIAELKEKIVLTHNRLKSLMKILSEVTPDQSKPEN 231 (SEQ ID NO:731)
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Figure 5: 85P1B3 Hydrophilicity profile
(Hopp T.P., Woods K.R., 1981. Proc. Natl. Acad. Sci. U.S.A. 78:3824-3828)

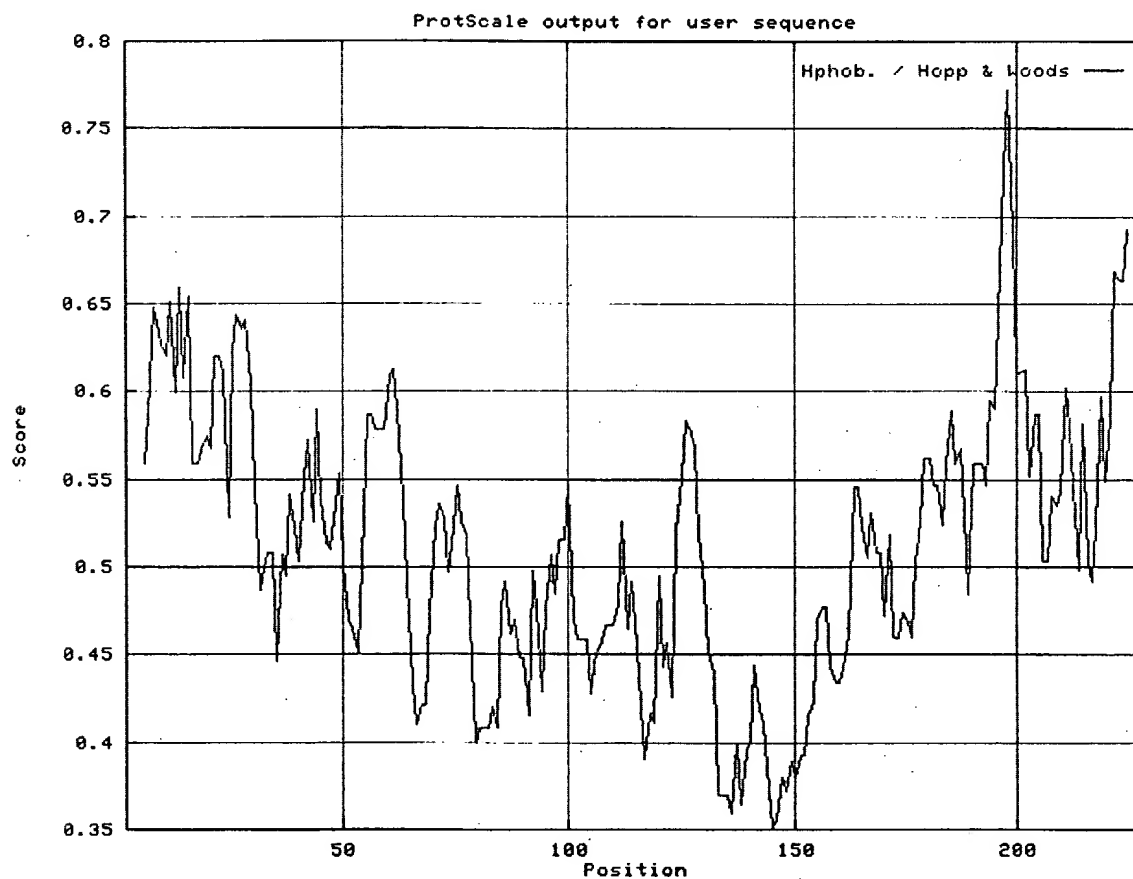


Figure 6: 85P1B3 Hydropathicity Profile
(Kyte J., Doolittle R.F., 1982. J. Mol. Biol. 157:105-132)

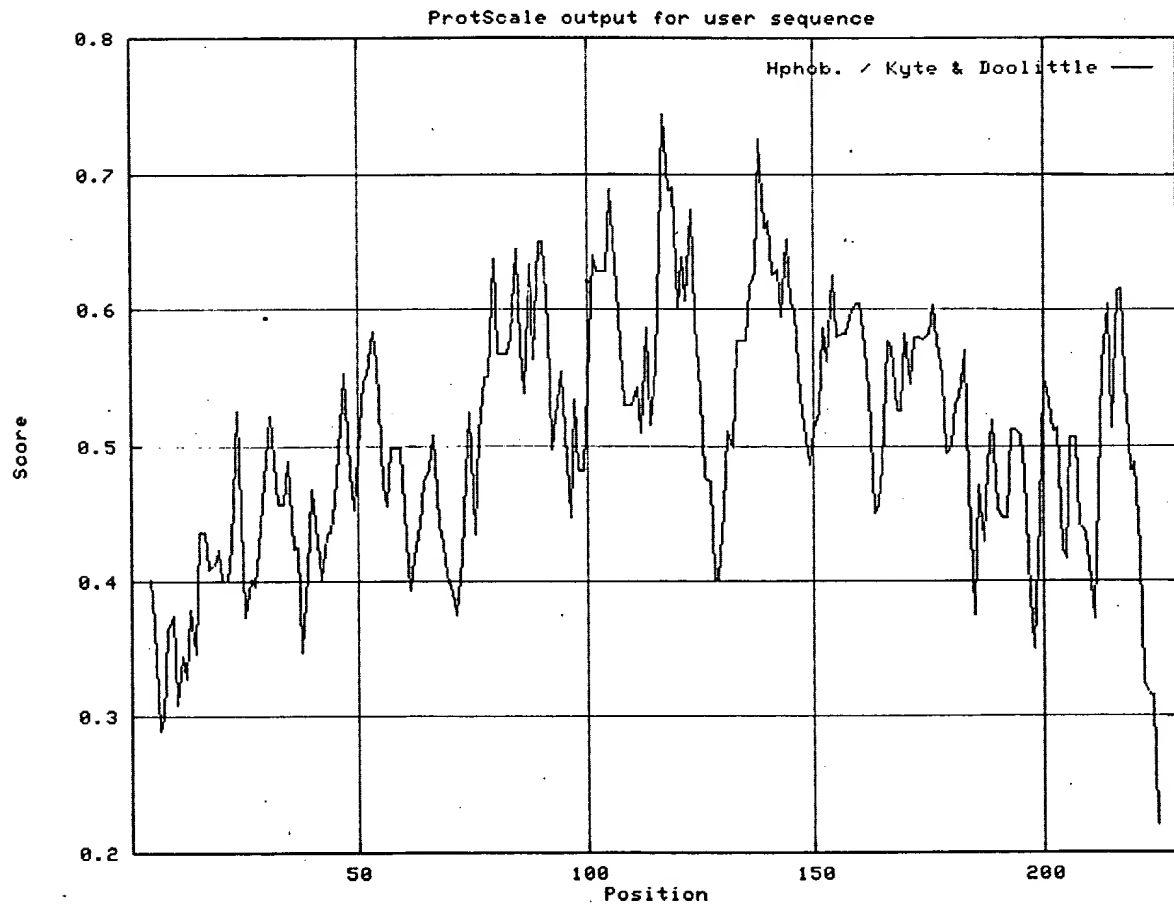
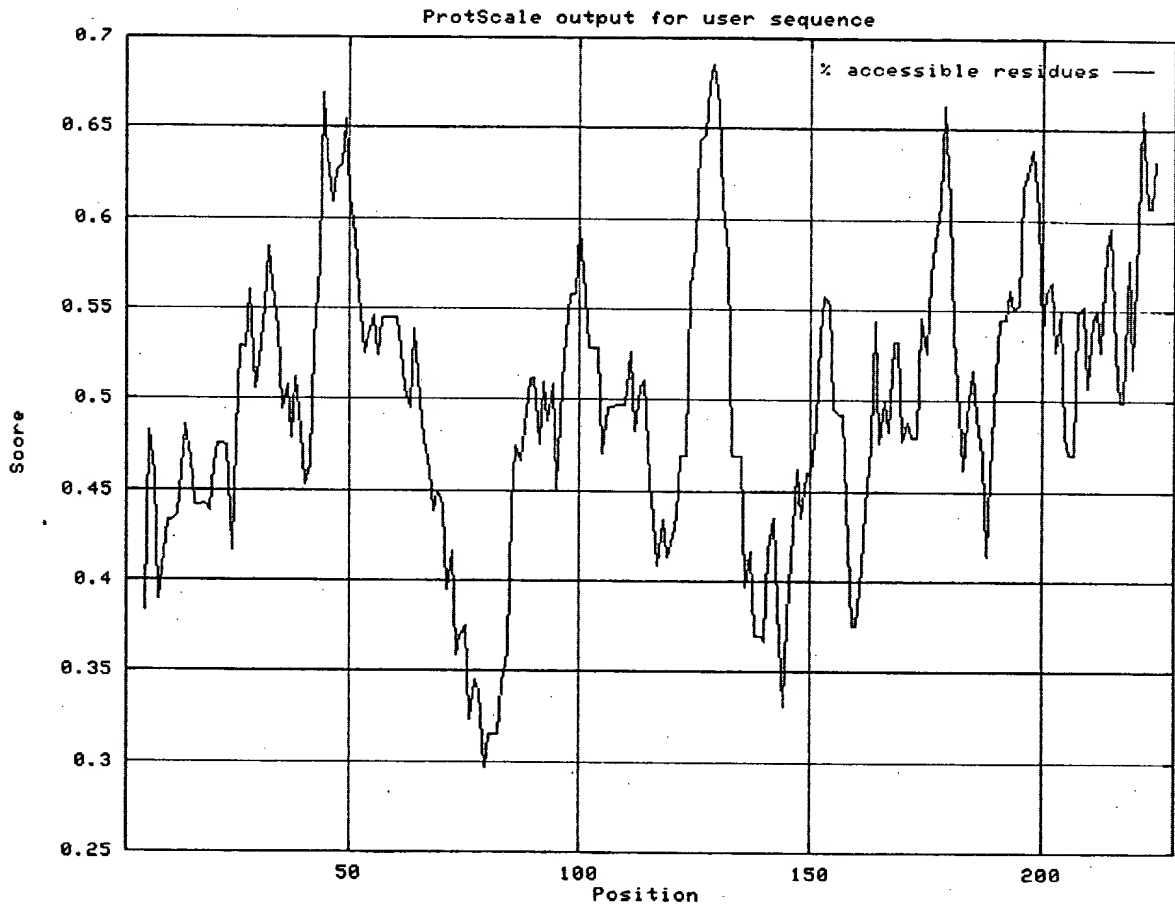


Figure 7: 85P1B3 % Accessible Residues Profile
(Janin J., 1979. Nature 277:491-492)



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Figure 8: 85P1B3 Average Flexibility Profile

(Bhaskaran R., Ponnuswamy P.K., 1988.

Int. J. Pept. Protein Res. 32:242-255)

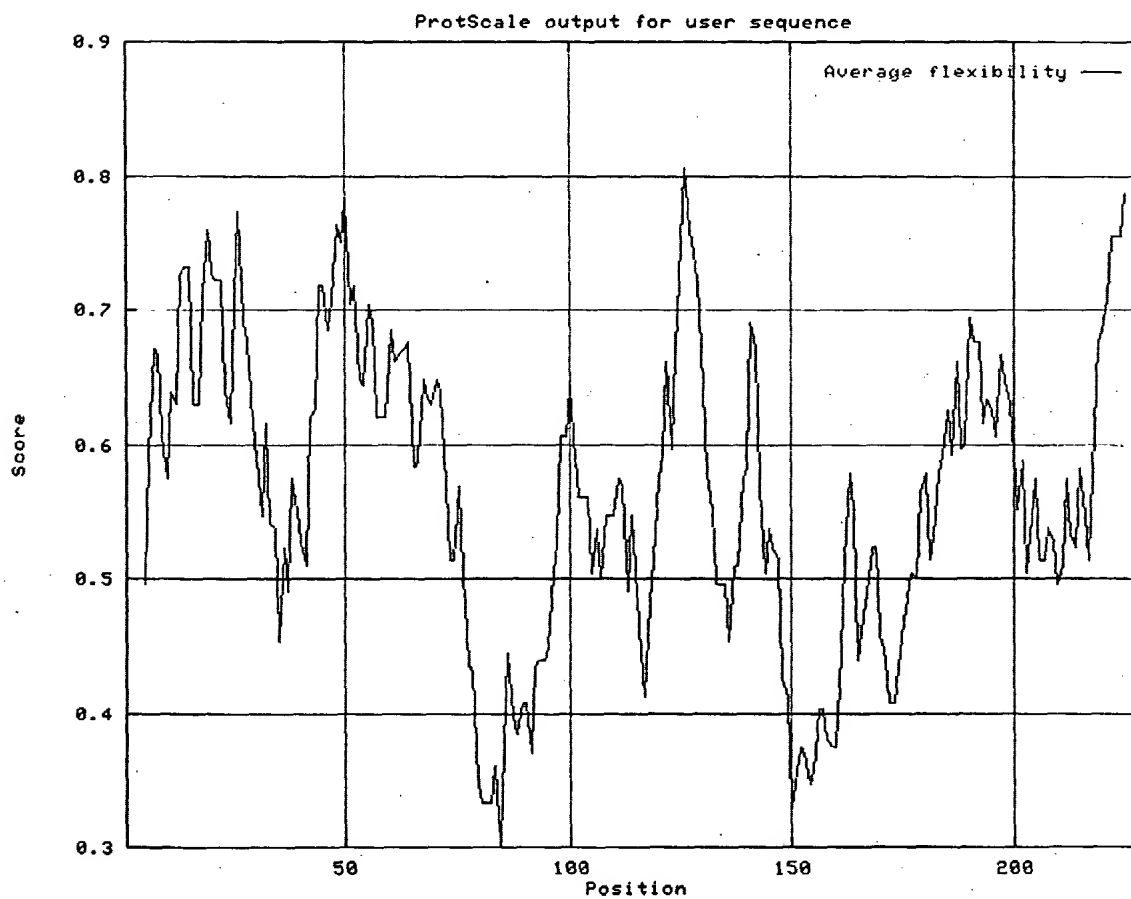


Figure 9: 85P1B3 Beta-turn Profile
(Deleage, G., Roux B. 1987. Protein Engineering 1:289-294)

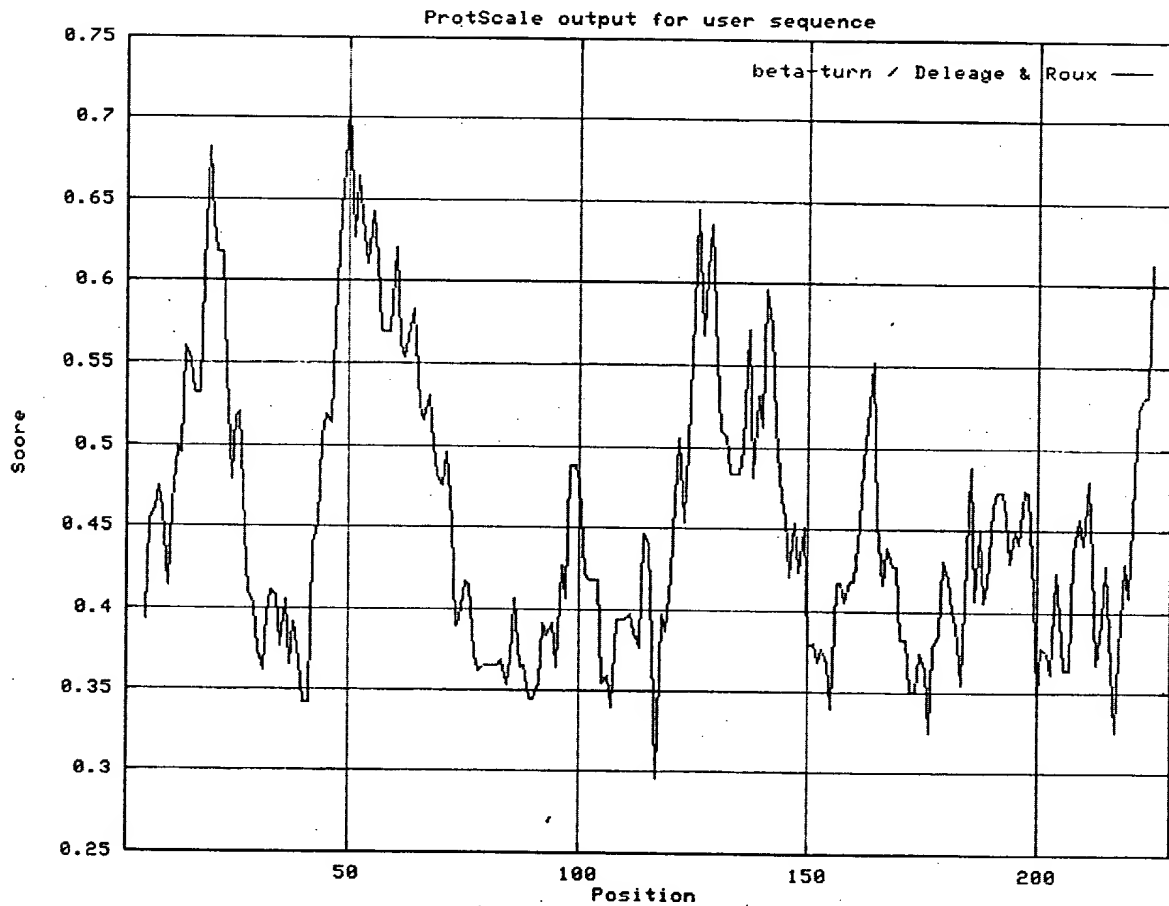


Figure 10 RT-PCR analysis of 85P1B3 expression.

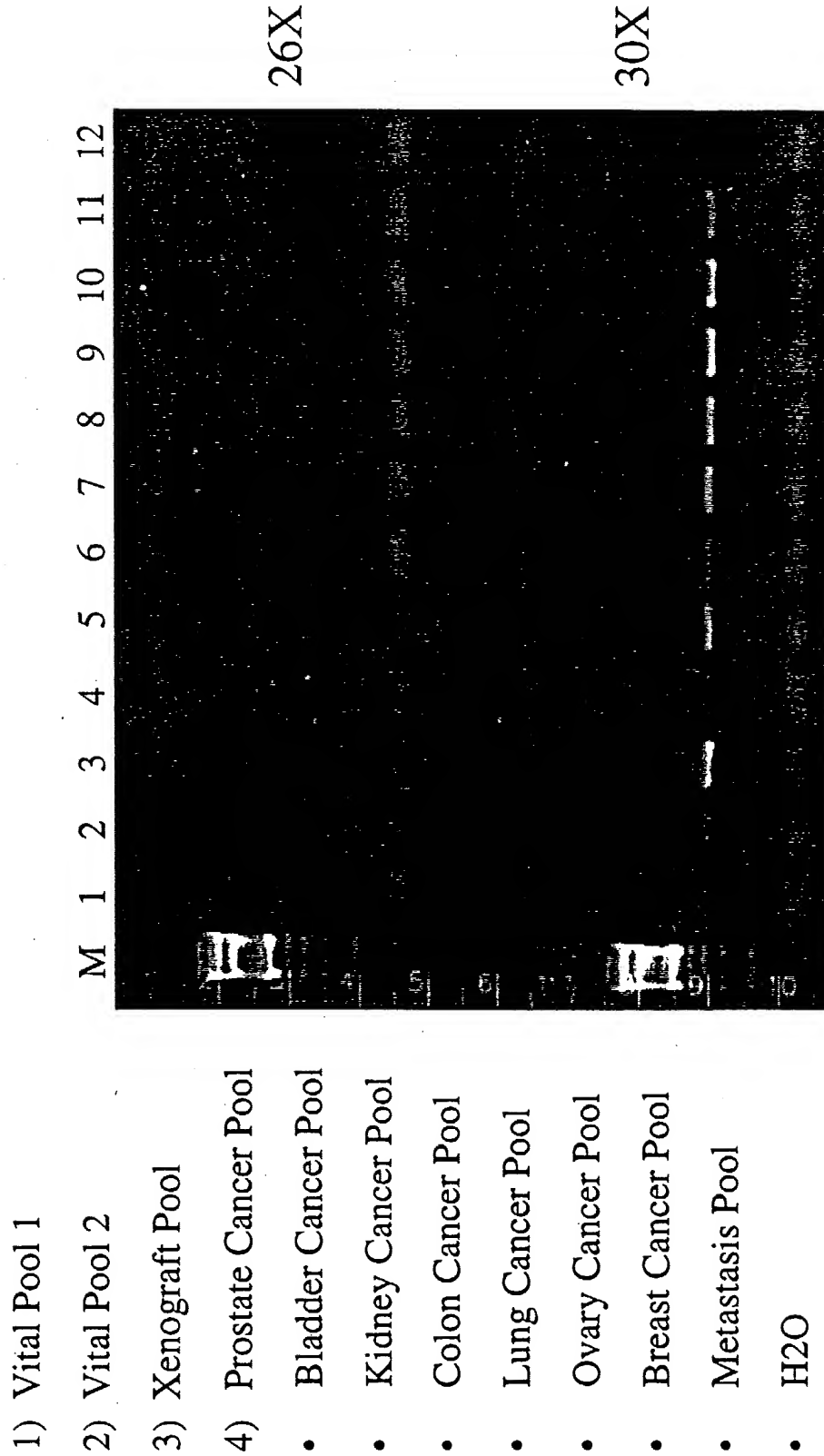


Figure 11 Expression of 85P1B3 in Normal Human Tissues

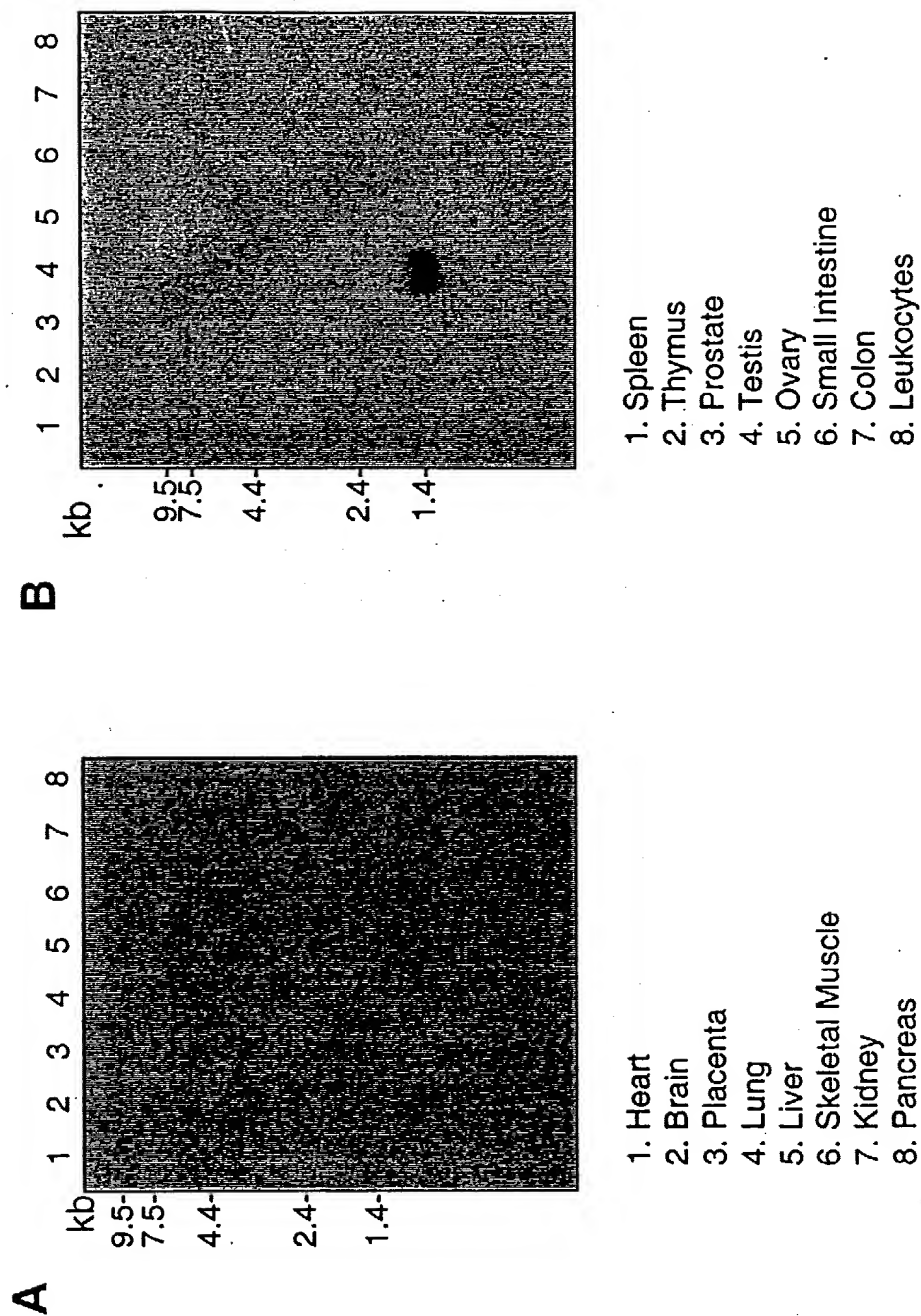


Figure 12 Expression of 85P1B3 in Human Cancer Cell lines

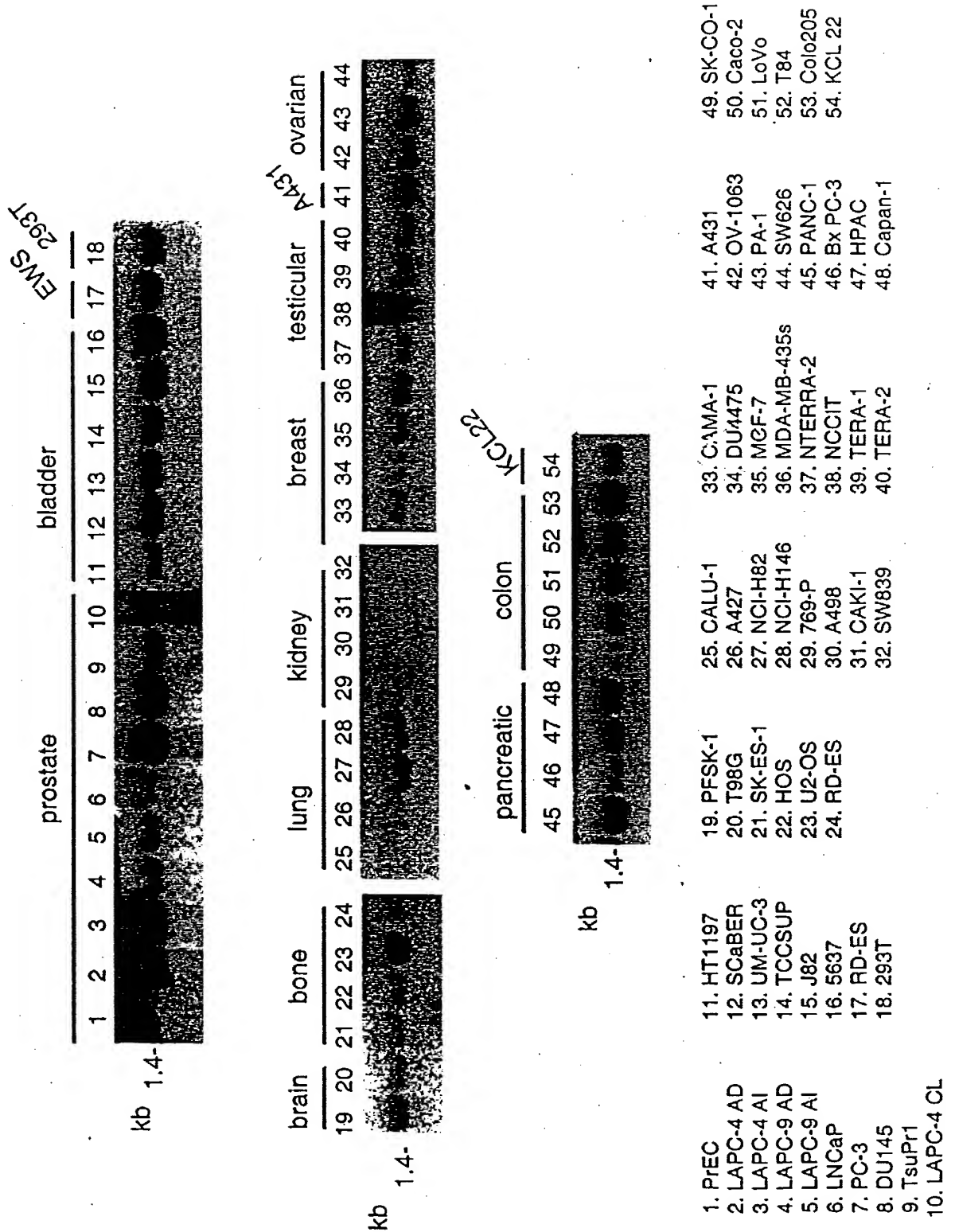


Figure 13 Expression of 85P1B3 in Patient Cancer Specimens and Cancer Cell Lines

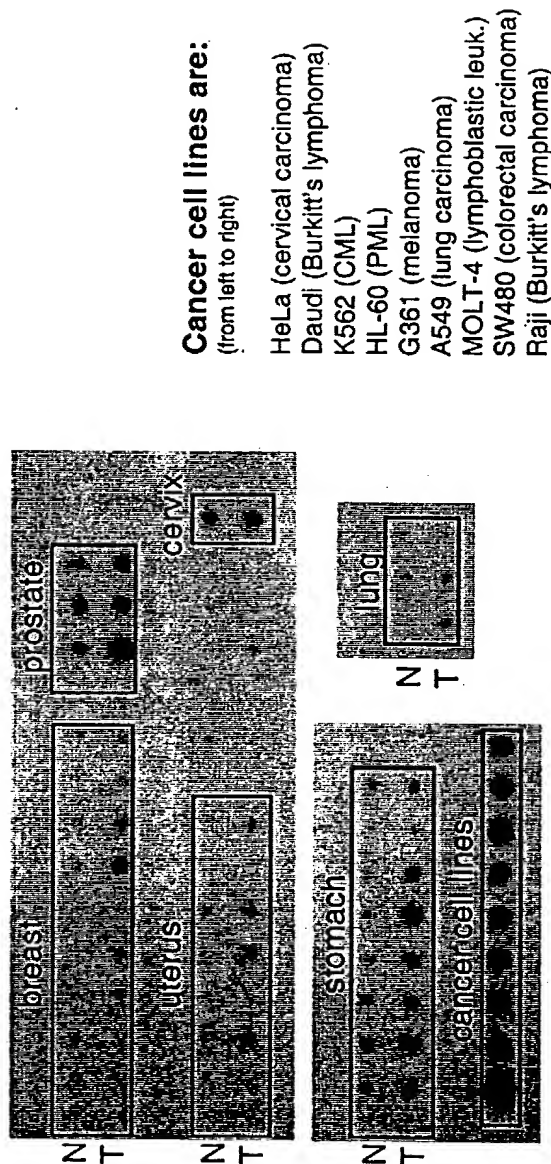
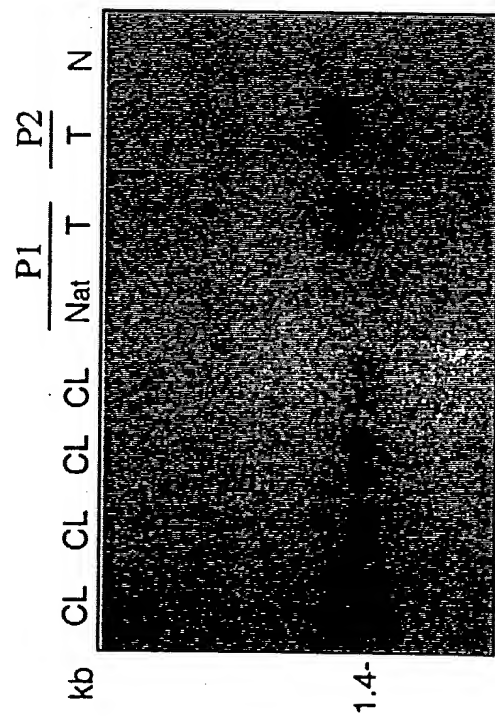


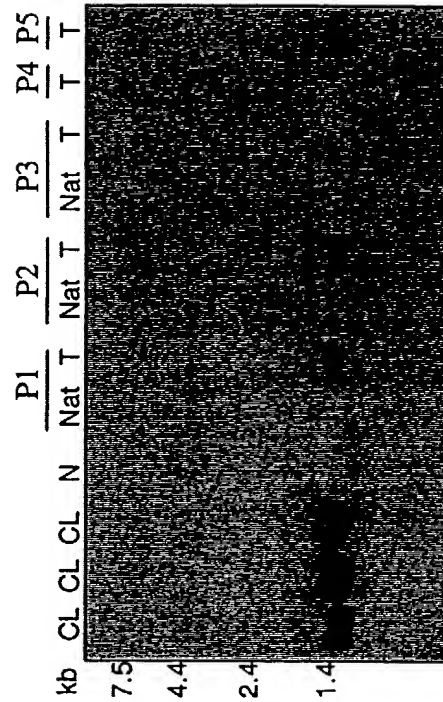
Figure 14 Expression of 85P1B3 in Colon Cancer Patient Specimens



P1 – Stage III, T2N1MX
P2 – Stage III, T3N1MX

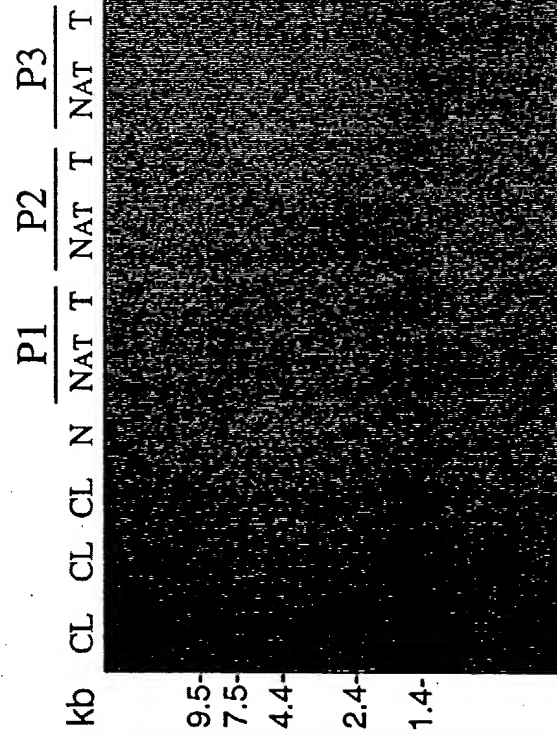
Cell Lines (CL) - Colo 205, LoVo, T84, Caco-2
N = Normal Colon
Nat = Normal Adjacent tissue
T = Tumor

Figure 15 Expression of 85P1B3 in Bladder Cancer Patient Specimens



P1 - Transitional, grade 2
P2 - Transitional, grade 3/2
P3 - Transitional
P4 - Polypoid cystitis
P5 - Papillary, grade 3

CL = cell lines listed in order: UM-UC-3, J82, SCABER
P = Patient
N = Normal Bladder
Nat = Normal adjacent tumor
T = Tumor

Figure 16 Expression of 85P1B3 in Lung Cancer Patient Specimens

P1 - Squamous, stage IB
 P2 - Squamous, stage IIB
 P3 - Squamous, stage IIIA

CL = cell lines (listed in order):
 A427, NCI-H82, NCI-H146
 P = Patient
 N = Normal Lung
 NAT = Normal adjacent tissue
 T = Tumor



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Figure 18 Expression of 85P1B3 in PC3 Cells Following Retroviral-Mediated Gene Delivery

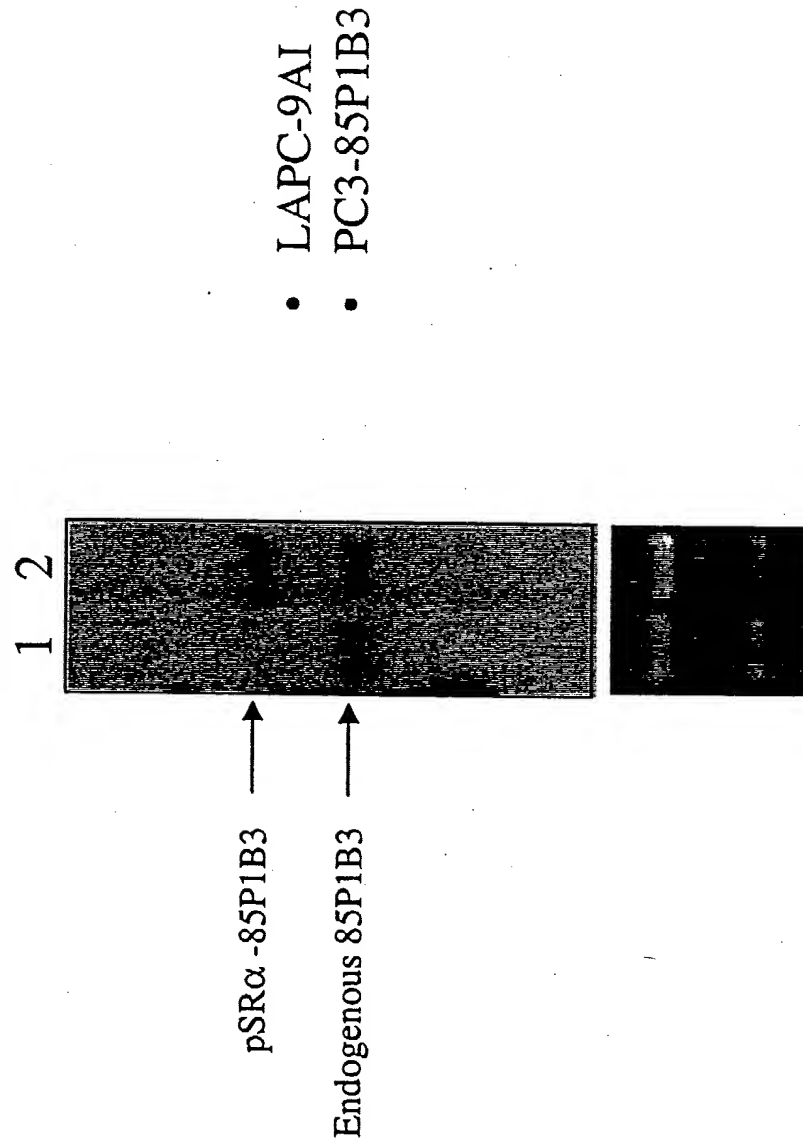
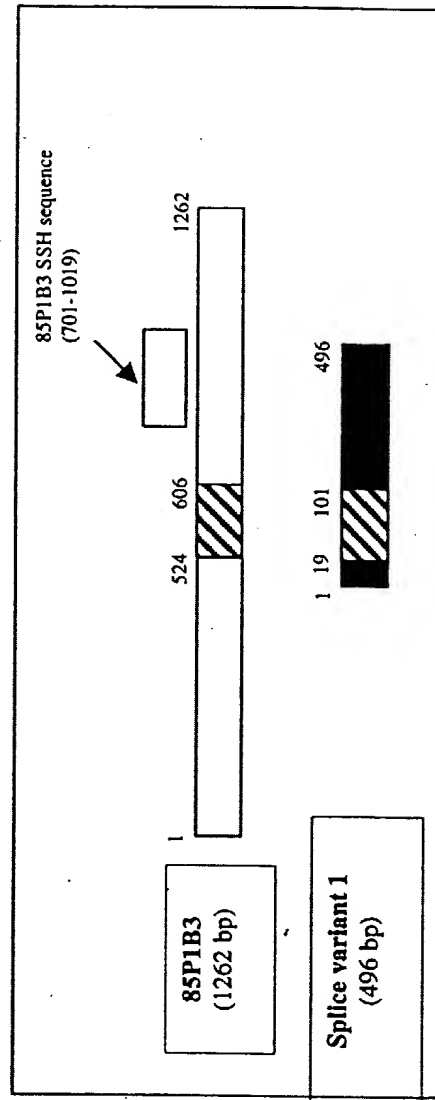


Figure 19.



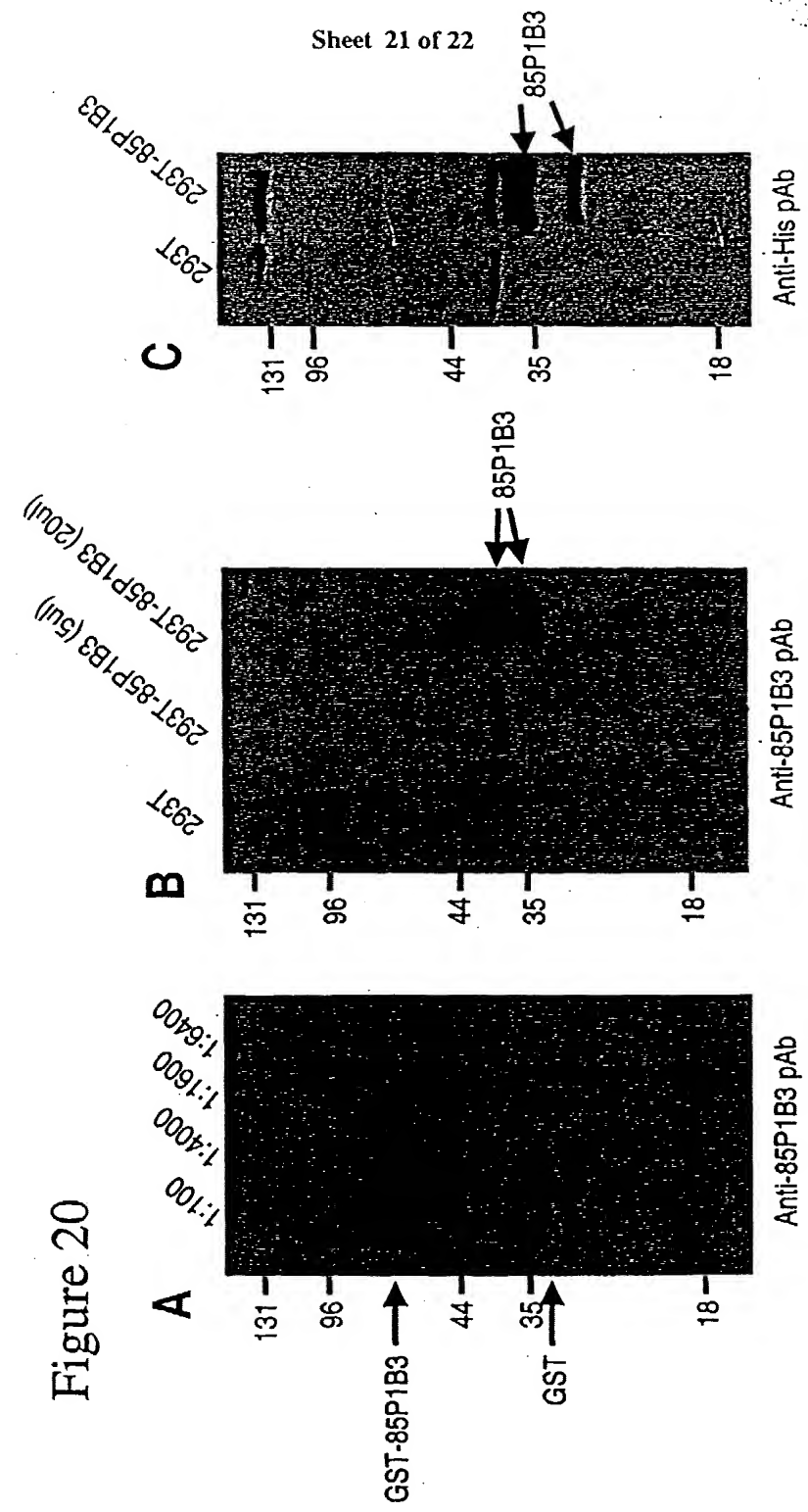
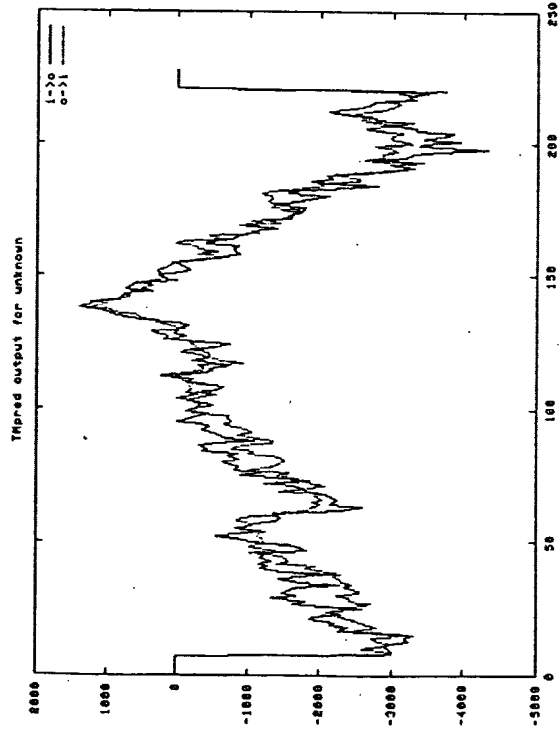


Figure 20

Fig. 21A

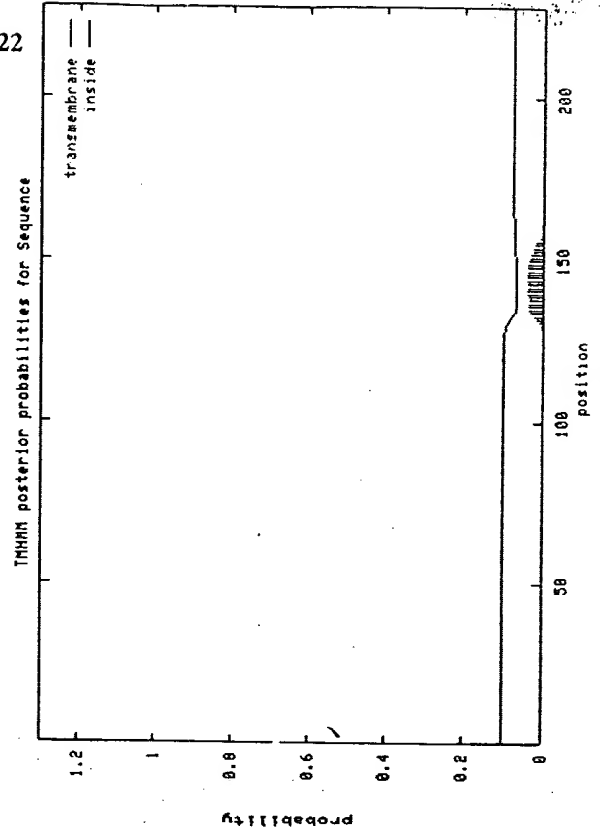
10 20 30 40 50 60 70
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 c: random coil (49.34%)
 ccc
 e: extended strand (13.97%)
 QPERCAVQCAQCHAVLADSVHLAWDLRSGLGAVFSRVTTNNVVLEAPFLVGIEGSLKGSTYNLLFCGSC
 h: alpha helix (36.68%)
 chhh
 GIPVGFHLYSTHAALALRGHFCLSDDKMCVYLLKTKAIVNASEMDIQNVPLSEKIAELKEKIVLTNRL
 ccc
 KSLMKILSEVTPDQSKPEN (SEQ ID NO:729)
 hhhhhheccccccccccccc

Fig. 21B



1 transmembrane from amino acids 129-149

Fig. 21C



No transmembrane domains, soluble protein